

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

To place the subject application in better form, the specification has been amended to correct minor informalities. Also, a new abstract is presented in accordance with preferred practice. No new matter has been added by these changes.

Claims 1 through 29 are presented for consideration. Claim 15 is independent. Claims 1 through 14 have been cancelled without prejudice or disclaimer of subject matter. Claims 15 through 29 have been added to assure Applicant of the full measure of protection to which he deems himself entitled. Support for these added claims can be found in the original application, as filed. Therefore, no new matter has been added.

Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 2 and 8 which have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite have been cancelled.

Cancelled Claims 1-6, 8-10, (sic 12 and 13) and 14 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,621,556 to Iwasaki et al. Cancelled Claim 11 was rejected under 35 U.S.C. § 103 as being unpatentable over the Iwasaki et al. patent in view of U.S. patent application publication number 2002/0163631 to Sogard. Cancelled Claim 7 was rejected under 35 U.S.C. § 103 as being unpatentable over the Iwasaki et al. patent in view of U.S. patent application publication number 2004/0017556 to Nakahara. Applicant submits that the cited art, whether taken individually or in combination, does not teach many features of the

present invention, as previously recited and as recited in new independent claim 15. Therefore, these rejections are respectfully traversed. In addition, Applicant submits that the new independent claim 15, as presented, amplify the distinctions between the present invention and the cited art.

New Independent Claim 15 is directed to exposure apparatus that has a projection optical system and transfers a mask pattern to a substrate via the projection optical system. In the apparatus, a first vibration isolating mechanism arranged on a base supports a first structure. A first partition wall defines a first space that includes the optical path of the projection optical system. A first elastic seal member couples the first structure and the first partition wall and seals the first space. A first support member arranged on the base is different from the first vibration isolating mechanism and supports the first partition wall.

In Applicant's view, Iwasaki et al. discloses a projection exposure apparatus in which a reticle is illuminated with an exposure beam and a wafer is exposed with the exposure beam via a projection optical system. The projection optical system is mounted on a frame mechanism slidable on a level block, and a wafer stage system is provided, on the level block, inside of the frame mechanism. In order to pull the projection optical system out of the main body of the projection exposure apparatus, an adjustment table is provided separately from the level block, and after the wafer stage system is moved, the frame mechanism is moved onto the adjustment table, in a state that the frame mechanism is supporting the projection optical system.

In Applicant's opinion, Sogard discloses a support assembly for an exposure apparatus that has a frame assembly. An elevator assembly and a pivot assembly support at least one subassembly above an isolation base. The elevator assembly selectively lifts the frame assembly

and the subassembly relative to the isolation base. The pivot assembly allows a portion of the frame assembly and the subassembly to be rotated relative to the isolation base. As a result, the subassemblies of the exposure apparatus can be removed relatively easily for service and adjustment.

Nakahara, in Applicant's view, discloses an exposure apparatus in which a buffer that can stock a plurality of masks and can be loaded/unloaded is disposed in a mask carrier route ranging from the load/unload ports of an SMIF pod to a mask stage RST. A mask carrier system carries the masks between the load/unload ports, the buffer, and the mask stage. The masks can be housed to the maximum, since the masks, which are loaded into the apparatus housed in the SMIF pod, are sequentially loaded into the buffer by the carrier system. The apparatus can keep the number of masks necessary for exposure at all times inside itself. In addition, since the carrier system carries the masks between the load/unload ports, the buffer, and the mask stage, the operator does not have to manually exchange the mask container.

In accordance with the invention of new Claim 15, the main body of an exposure apparatus has a first structure supported by a first vibration isolating mechanism arranged on a base. A first partition wall is coupled to the first structure by a first elastic seal member to form a first closed space that separates the interior of the first partition wall from the remaining space. The first partition wall is supported by a first support member that is different from the first vibration isolating mechanism. Advantageously, the closed space can be formed and purged with purge gas by the first elastic seal member which cuts off vibrations of the independently arranged partition wall so that adverse effects on stage alignment precision can be prevented and the space of exposure processing can be partially sealed to print a high precision pattern on a wafer.

Iwasaki et al., as shown in Figs. 1 and 2, discloses a wafer chamber 23 having an inner surface fixed on the back surface of a wafer base 24 and a wafer stage 25A and an outer surface supported by antivibration bases 22 on air pads 21 which form a vibration isolation mechanism that slides into an exposure apparatus. As a result, a reactive force from the wafer stage stage 25A will vibrate the wafer chamber 23 and have an adverse effect on the control of the wafer stage 25A and/or cause vibration of other structure.

In contrast to Iwasaki et al., it is a feature of Claim 15 that a first support member arranged on the base of the exposure apparatus is different from the first vibration isolating mechanism supporting the first partition wall so as to prevent vibrations from being transmitted to the first structure that is supported on the first vibration isolating mechanism. Accordingly, it is not seen that Iwasaki et al.'s wafer chamber (23) that is not on a support member different from a vibration isolating mechanism (21 and 22) in any manner teaches or suggests the feature of Claim 15 of a first support member arranged on a base to support a first partition wall that is different from a first vibration isolating mechanism arranged on the base that supports a first structure. It is therefore believed that new Claim 15 is completely distinguished from Iwasaki et al. and is allowable thereover.

Sogard may disclose a reaction force receiving structure outside a partition wall that is independent of the structure supported by a vibration isolating mechanism. Neither the Sogard arrangement nor Iwasaki et al., however, teaches or suggests the feature of a first support member arranged on the base of the exposure apparatus that is different from the first vibration isolating mechanism and supports the first partition wall so as to prevent vibrations from being transmitted to the first structure supported on the first vibration isolating mechanism.

Accordingly, it is not seen that the addition of Sogard's structure which does not support a partition wall to Iwasaki et al.'s wafer chamber that is not on a support member different from a vibration isolating mechanism could possibly suggest the features of Claim 15. It is therefore believed that Claim 15 is completely distinguished from any combination of Iwasaki et al. and Sogard and is allowable thereover.

Nakahara has been cited as disclosing an exposure apparatus having a chamber/partition wall for housing a mask/or substrate in which the chamber/partition wall has an openable/closable door. Nakahara, however, fails to teach or suggest anything about a first support member arranged on the base of the exposure apparatus that is different from the first vibration isolating mechanism and supports the first partition wall so as to prevent vibrations from being transmitted to the first structure supported on the first vibration isolating mechanism. Accordingly, it is not seen that the addition of Nakahara's partition wall with an openable and closable door lacking a support member for a partition wall on a base that is different from a vibration isolating mechanism to Iwasaki et al.'s that is wafer chamber not on a support member different from a vibration isolating mechanism in any manner suggest the features of Claim 15. It is therefore believed that new Claim 15 is completely distinguished from any combination of Iwasaki et al. and Nakahara and is allowable.

Applicant submits that the cited art, whether taken individually or in combination, does not teach or suggest such features of the present invention as recited in independent Claim 15.

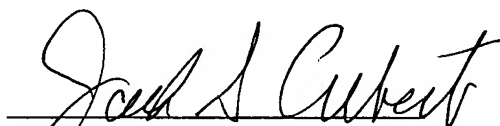
For the foregoing reasons, Applicant submits that the present invention, as recited in independent Claim 15, is patentably defined over the cited art.

Dependent claims 16 through 29 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Applicant further submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



Attorney for Applicant

Jack S. Cubert

Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200
SEW/JSC/dc

DC_MAIN 182618v1